CLAIM SUMMARY DOCUMENT

Claim 1 (Amended) ~~A~~ An isolated Na^+-H^+ antiporter gene encoding a protein that has an activity of regulating the pH of vacuoles in plant cells and altering flower color.

Claim 2 (Amended) ~~A gene~~ An isolated nucleic acid encoding a protein that has the amino acid sequence as set forth in SEQ ID NO: 2 and that has an activity of regulating the pH of vacuoles in plant cells.

Claim 3 (Amended) ~~A gene~~ An isolated nucleic acid encoding a protein that has an amino acid sequence modified by the addition or deletion of one or a plurality of amino acids and/or substitution with other amino acids in the amino acid sequence as set forth in SEQ ID NO: 2 and that has an activity of regulating the pH of vacuoles and altering flower color.

Claim 4 (Amended) The gene according to claim 1 encoding a protein that has the amino acid sequence having a identity of 20% or more with the amino acid sequence as set forth in SEQ ID NO: 2 and that has an activity of regulating the pH of vacuoles and altering flower color.

Claim 5 (Amended) The gene according to claim 1 encoding a protein that has the amino acid sequence having ~~a~~ an identity of 20% or more with the amino acid sequence as set forth in SEQ ID NO: 2 and that has an activity of regulating the pH of vacuoles and altering flower color.

Claim 6 (Amended) The gene according to claim 1 that hybridizes to a part or all of a nucleic acid having a nucleotide sequence encoding the amino acid sequence as set forth

in SEQ ID NO: 2 and that has an activity of regulating the pH of vacuoles and altering flower color.

Claim 7 (Previously amended) A vector comprising the gene according to claim 1.

Claim 8 (Original) A host cell transformed with the vector according to claim 7.

Claims 9-10 (Currently canceled)

Claim 11 (Amended) A transgenic plant in which the gene according to claim 1 has been introduced or a progeny of said plant in which said gene has been introduced and in which the pH of vacuoles in the plant cells are regulated and flower color is altered ~~thereof having the same property as said plant~~, or a tissue thereof.

Claim 12 (Amended) A cut flower of the plant according to claim 11 or a progeny of said plant in which said gene has been introduced and in which the pH of vacuoles in the plant cells are regulated and flower color is altered ~~thereof having the same property as said plant~~.

Claim 13 (Previously amended) A method of regulating the pH of vacuoles comprising introducing the gene according to claim 1 into a plant or plant cells and then allowing said gene to be expressed in said plant or plant cells.

Claim 14 (Previously amended) A method of controlling the flower color of a plant comprising introducing the gene according to claim 1 into a plant or plant cells and then allowing said gene to be expressed in said plant or plant cells.

Claim 15 (Amended) A vector comprising the ~~gene~~ nucleic acid sequence according to claim 2.

Claim 16 (Amended) A vector comprising the ~~gene~~ nucleic acid sequence according to claim 3.

Claim 17 (Amended) A vector comprising the ~~gene~~ nucleic acid sequence according to claim 5.

Claim 18 (Amended) A vector comprising the ~~gene~~ nucleic acid sequence according to claim 6.

Claim 19 (Previously added) A host cell transformed with the vector according to claim 15.

Claim 20 (Previously added) A host cell transformed with the vector according to claim 16.

Claim 21 (Previously added) A host cell transformed with the vector according to claim 17.

Claim 22 (Previously added) A host cell transformed with the vector according to claim 18.

Claims 23-30 (Currently canceled)

Claim 31 (Amended) A transgenic plant in which the ~~gene~~ nucleic acid sequence according to claim 2 has been introduced or a progeny of said plant in which said nucleic acid sequence has been introduced and in which the pH of vacuoles in the plant cells are regulated and flower color is altered ~~thereof having the same property as said plant~~, or a tissue thereof.

Claim 32 (Amended) A transgenic plant in which the ~~gene~~ nucleic acid sequence according to claim 3 has been introduced or a progeny of said plant in which said nucleic acid sequence has been introduced and in which the pH of vacuoles in the plant cells are regulated and flower color is altered ~~thereof having the same property as said plant~~, or a tissue thereof.

Claim 33 (Amended) A transgenic plant in which the ~~gene~~ nucleic acid sequence according to claim 5 has been introduced or a progeny of said plant in which said nucleic acid sequence has been introduced and in which the pH of vacuoles in the plant cells are regulated and flower color is altered ~~thereof having the same property as said plant~~, or a tissue thereof.

Claim 34 (Amended) A transgenic plant in which the ~~gene~~ nucleic acid sequence according to claim 6 has been introduced or a progeny of said plant in which said nucleic acid sequence has been introduced and in which the pH of vacuoles in the plant cells are regulated and flower color is altered ~~thereof having the same property as said plant~~, or a tissue thereof.

Claim 35 (Amended) A cut flower of the plant according to claim 31 or a progeny of said plant in which said nucleic acid sequence has been introduced and in which the pH of vacuoles in the plant cells are regulated and flower color is altered ~~thereof having the same property as said plant~~.

Claim 36 (Amended) A cut flower of the plant according to claim 32 or a progeny of said plant in which said nucleic acid sequence has been introduced and in which the pH

of vacuoles in the plant cells are regulated and flower color is altered ~~thereof having the same property as said plant~~.

Claim 37 (Amended) A cut flower of the plant according to claim 33 or a progeny of said plant in which said gene has been introduced and in which the pH of vacuoles in the plant cells are regulated and flower color is altered ~~thereof having the same property as said plant~~.

Claim 38 (Amended) A cut flower of the plant according to claim 34 or a progeny of said plant in which said nucleic acid sequence has been introduced and in which the pH of vacuoles in the plant cells are regulated and flower color is altered ~~thereof having the same property as said plant~~.

Claim 39 (Amended) A method of regulating the pH of vacuoles comprising introducing the ~~gene~~ nucleic acid sequence according to claim 2 into a plant or plant cells and then allowing said ~~gene~~ nucleic acid sequence to be expressed in said plant or plant cells.

Claim 40 (Amended) A method of regulating the pH of vacuoles comprising introducing the ~~gene~~ nucleic acid sequence according to claim 3 into a plant or plant cells and then allowing said ~~gene~~ nucleic acid sequence to be expressed in said plant or plant cells.

Claim 41 (Amended) A method of regulating the pH of vacuoles comprising introducing the ~~gene~~ nucleic acid sequence according to claim 5 into a plant or plant cells

and then allowing said ~~gene~~ nucleic acid sequence to be expressed in said plant or plant cells.

Claim 42 (Amended) A method of regulating the pH of vacuoles comprising introducing the ~~gene~~ nucleic acid sequence according to claim 6 into a plant or plant cells and then allowing said ~~gene~~ nucleic acid sequence to be expressed in said plant or plant cells.

Claim 43 (Amended) A method of controlling the flower color of a plant comprising introducing the ~~gene~~ nucleic acid sequence according to claim 2 into a plant or plant cells and then allowing said ~~gene~~ nucleic acid sequence to be expressed in said plant or plant cells.

Claim 44 (Amended) A method of controlling the flower color of a plant comprising introducing the ~~gene~~ nucleic acid sequence according to claim 3 into a plant or plant cells and then allowing said ~~gene~~ nucleic acid sequence to be expressed in said plant or plant cells.

Claim 45 (Amended) A method of controlling the flower color of a plant comprising introducing the ~~gene~~ nucleic acid sequence according to claim 5 into a plant or plant cells and then allowing said ~~gene~~ nucleic acid sequence to be expressed in said plant or plant cells.

Claim 46 (Amended) A method of controlling the flower color of a plant comprising introducing the ~~gene~~ nucleic acid sequence according to claim 6 into a plant or

plant cells and then allowing said ~~gene~~ nucleic acid sequence to be expressed in said plant or plant cells.

Claims 47-51 (Currently canceled)